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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,377	04/30/2004	Ronald K. Maxwell	57640.010274	3376

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EXAMINER

ROST, ANDREW J

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/709,377	MAXWELL ET AL.	
	Examiner	Art Unit	
	Andrew J. Rost	3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/26/2006 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-8 and 10-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 contains the limitation of "pinion wheels impart forces to the plate substantially exclusively in the direction of movement of the plate" in lines 13-14.

Claim 15 contains the limitation of "pinion wheels impart forces to the plate substantially exclusively in the direction of movement of the plate" in lines 15-16.

These limitations were not fully disclosed in the originally filed disclosure.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-8 and 10-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bachmann et al. (4,327,893) in view of Imase et al. (6,023,989).

Regarding claims 1 and 15, Bachmann et al. disclose a damper containing a plate (45) having parallel sides, two rotating gears (57) that interact with racks on the edges of the plate with the gears having a center of rotation and rotating and supported by a shaft (53). Bachmann et al. does not disclose the use of pinion wheels with pinion pins that interact with a toothed rack. However, Imase et al. teach the use of a pinion wheel with pinion pins interacting with a toothed rack (Fig. 1) to perform a similar function as a gear interacting with a pin rack (Fig. 10) and to perform as a torque transmission devices that is capable of suppressing noise and vibration (Col. 2, lines 35-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the rotating gear and pin rack of Bachmann et al. with the pinion wheel and toothed rack as taught by Imase et al. in order to suppress noise and vibrations in the damper system.

In regards to claims 2 and 16, the modified Bachmann et al. reference discloses a toothed rack on the parallel edges of the gate and a pinion wheel engaging each of the toothed racks.

In regards to claims 3 and 18, the modified Bachmann et al. reference discloses a motor for operating the pinion wheels (motor 50 in Bachmann et al.).

In regards to claims 4 and 19, the modified Bachmann et al. reference discloses the pinion wheels are operating in counter-rotating directions which cause the plate to be translated into and out of engagement.

In regards to claim 5, the modified Bachmann et al. reference discloses the pinion wheels contain two wheel-shaped plates (11 in Imase et al.) with a plurality of pins (6 in Imase et al.) connecting the two plates.

In regards to claims 6 and 7, the modified Bachmann et al. reference discloses the pins are rounded in shape and evenly spaced around a hub (Fig. 2 of Imase et al.).

In regards to claim 8, the modified Bachmann et al. reference discloses the rack and pinion may be made of iron, mild steel, plastic or ceramic material (Col. 9, lines 1-3 of Imase et al.).

In regards to claims 10 and 19, the modified Bachmann et al. reference discloses a single motor (50 in Bachmann et al.) having a first actuator (gear box 52) that is coupled to one of the pinion wheels and a second actuator (other gear box 52) that is coupled to the other of the pinion wheels and a shaft connecting the two actuators (shaft 51 in Bachmann et al.).

In regards to claim 11, the modified Bachmann et al. reference discloses flexible joints (connection pieces used of connecting gear box 52 to the shaft 51 in Bachmann et al.) between the actuators and connecting shaft.

In regards to claim 12, the modified Bachmann et al. reference discloses rotating the pinion wheels in opposite directions.

In regards to claim 13, the modified Bachmann et al. reference discloses the rack is composed of metal and is integral to the plate.

In regards to claim 14, the modified Bachmann et al. reference discloses the pinion pins are offset from the outer edge of the pinion wheel (Fig. 1 of Imase et al.).

In regards to claim 17, the modified Bachmann et al. reference discloses the pinion wheels having two parallel plates having a polarity of pinion pins disposed about a center portion (Fig. 2 of Imase et al.).

In regards to claim 21, the modified Bachmann et al. reference discloses a hook (60) holding the seal frame (58). When disconnected from the surrounding structure, the seal frame can be removed by means of the hook.

6. Claims 1-7 and 10-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bachmann et al. in view of St-Germain et al. (6,311,800).

Regarding claims 1 and 15, Bachmann et al. disclose a damper containing a plate (45) having parallel sides, two rotating gears (57) that interact with racks on the edges of the plate with the gears having a center of rotation and rotating and supported by a shaft (53). Bachmann et al. does not disclose the use of pinion wheels with pinion

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pins that interact with a toothed rack. However, St-Germain et al. disclose the use of a pinion wheel with pinion pins that interact a toothed rack to impart linear movement between the pinion wheel with pinion pins and the toothed rack, which is capable of raising loads of one thousand pounds or more (col. 1, lines 39-41) and to provide a friction free engagement between the pinion wheel and the toothed rack to eliminate the need for applying grease (col. 1, lines 34-38). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the rotating gear and pin rack of Bachmann et al. with the pinion wheel and toothed rack as taught by St-Germain et al. in order to provide a frictionless engagement between the pinion wheel and toothed rack that is capable of raising loads of one thousand pounds or more.

In regards to claims 2 and 16, the modified Bachmann et al. reference discloses a toothed rack on the parallel edges of the gate and a pinion wheel engaging each of the toothed racks.

In regards to claims 3 and 18, the modified Bachmann et al. reference discloses a motor for operating the pinion wheels (motor 50 in Bachmann et al.).

In regards to claims 4 and 19, the modified Bachmann et al. reference discloses the pinion wheels are operating in counter-rotating directions which cause the plate to be translated into and out of engagement.

In regards to claim 5, the modified Bachmann et al. reference discloses the pinion wheels contain two wheel-shaped plates (40 in St-Germain et al.) with a plurality of pins (46 in St-Germain et al.) connecting the two plates.

In regards to claims 6 and 7, the modified Bachmann et al. reference discloses the pins are rounded in shape and evenly spaced around a hub (Fig. 3 of St-Germain et al. and col. 3, lines 34-37).

In regards to claims 10 and 19, the modified Bachmann et al. reference discloses a single motor (50 in Bachmann et al.) having a first actuator (gear box 52) that is coupled to one of the pinion wheels and a second actuator (other gear box 52) that is coupled to the other of the pinion wheels and a shaft connecting the two actuators (shaft 51 in Bachmann et al.).

In regards to claim 11, the modified Bachmann et al. reference discloses flexible joints (connection pieces used of connecting gear box 52 to the shaft 51 in Bachmann et al.) between the actuators and connecting shaft.

In regards to claim 12, the modified Bachmann et al. reference discloses rotating the pinion wheels in opposite directions.

In regards to claim 13, the modified Bachmann et al. reference discloses the rack is composed of metal and is integral to the plate.

In regards to claim 14, the modified Bachmann et al. reference discloses the pinion pins are offset from the outer edge of the pinion wheel (Fig. 1 of Imase et al.).

In regards to claim 17, the modified Bachmann et al. reference discloses the pinion wheels having two parallel plates having a polarity of pinion pins disposed about a center portion (Fig. 2 of Imase et al.).

In regards to claim 21, the modified Bachmann et al. reference discloses a hook (60) holding the seal frame (58). When disconnected from the surrounding structure, the seal frame can be removed by means of the hook.

Response to Arguments

7. Applicant's arguments filed 9/26/2006 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Imase et al. teach the use of a pinion wheel with pinion pins interacting with a toothed rack and a pinion with teeth interacting with a rack with pinion pins to be of identical fundamental structure except for the reversed relationship (col. 7, lines 43-50). Bachmann et al. disclose a blade damper that utilizes a pinion with teeth interacting with a rack having pinion pins. Therefore, the teaching of Imase et al. is that using a pinion wheel with pinion pins to interact with a toothed rack is of the same fundamental structure as using a pinion with teeth to interact with a rack having pinion pins.

In regards to applicant's arguments in the last paragraph on page 11 and the first paragraph on page 12, the arguments are not persuasive. The newly recited claim language of "substantially exclusively in the direction of movement of the plate" is not fully supported in the specification. It is unclear from Figures 3 and 10 that the "pinion wheels impart forces to the plate substantially exclusively in the direct of the movement of the plate". The support in the specification in paragraph [0009] states "pinion wheels to impart a linear force to the blade plate" which does not supply sufficient support for the claim that "pinion wheels impart forces to the plate substantially exclusively in the direction of movement of the plate". Bachmann et al. in view of the teachings of Imase et al. provide a structure that "imparts a linear force to the blade plate". Therefore, the applicant's arguments are not persuasive.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Froelich (1,159,486) discloses a gear wheel having a pair of parallel plates having equally spaced pins around a central hub. Melcher (1,289,508) discloses a roller pinion having a pair of parallel plates with connecting pinion pins with rollers attached to the pins.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew J. Rost whose telephone number is 571-272-

2711. The examiner can normally be reached on 7:00 - 4:30 M-Th and 7:00 - 12:00 Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on 571-272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJR, ASR 10/27/06



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